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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
09/193,597	11/17/98	LICHTMAN	P OKTA-14

EXAMINER	
CHRISTENSEN, A	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

SK

Office Action Summary

Application No.	Applicant(s)
09/193,597	Lichtman
Examiner	**Group Art Unit**
Andy Christensen	2612

☒ Responsive to communication(s) filed on *Oct 23, 2000*

☒ This action is **FINAL.**

☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire *3* month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claim

☒ Claim(s) *1-7, 11-20, 22-24, and 26-34* is/are pending in the applicat

Of the above, claim(s) _____ is/are withdrawn from consideration

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) *1-7, 11-20, 22-24, and 26-34* is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☒ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) _____ .

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

1. The Applicant's amendment filed October 23, 2000 has overcome the 35 USC 112 rejections of Claims 1-19 and 26-27 and the rejections are withdrawn.

2. The Applicant's arguments filed October 23, 200 have been fully considered by the Examiner.

The arguments regarding the Sasaki et al. reference with regard to Claims 20-23, as amended, is deemed to be persuasive and the rejection of Claims 20-23 in view of Sasaki et al. is withdrawn in view of the cancellation of Claim 21 and the amendments made to Claim 20.

The remainder of the Applicant's arguments are not deemed to be persuasive.

The Applicant argues that element 23 of Dennison, Jr. et al. is not a "housing". The Examiner disagrees, since it clearly houses lens carrier 40. Dennison, Jr. et al. describe item 23 as a "throughbore" which is formed in lens barrel member 20 (Column 5, Lines 24-25). Therefore either the throughbore 23, which houses lens carrier 40 or the lens barrel member, which also houses lens carrier 40, may be considered a housing.

The Applicant argues that Dennison et al. do not show a motorized optical coupler device. The Examiner has conceded this and relies upon Ohsawa for this teaching. It is noted however that Dennison, Jr. et al. do suggest a motorized device in the statement that a "powered source of

rotational energy may be used" (Column 8, Lines 29-32).

The Applicant argues that there is no requirement or suggestion that the drive assembly disclosed in Ohsawa should or could be disposed so that its gear means is mounted within a cavity in a housing which also has a connecting bore in which a tubular lens carrier us slidable, and further argues that there is no motivation or suggestion in either Dennison, Jr. et al. or Ohsawa to modify either of their structures so as to have a coupler device as defined in Claim 1.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

In this case, although Dennison, Jr. et al. use manual manipulation of drum 80 (aided by rotation sleeve 100) to move the lens (Column 8, Lines 10-29), there is the suggestion to use a powered device and acknowledgement is given that a "variety of ways" of accomplishing such an arrangement are known in the art (Column 8, Lines 29-31). It is also notoriously well known in the art to accomplish powered longitudinal lens movement using a rack/gear arrangement, as disclosed in Ohsawa. Such an arrangement would clearly have been recognized as an obvious

variation of the powered arrangement suggested in Dennison, Jr. et al. since the arrangement of Ohsawa is so well known and the same longitudinal lens movement that would be accomplished by the powered rotation of a drum in Dennison, Jr. et al. is also accomplished by a powered rack/gear arrangement as in Ohsawa. Furthermore, although Dennison, Jr. et al. express a preference for manual manipulation, for reasons not stated, it is clear that a powered arrangement would be easier to operate than that of a manually rotated drum since pushing a motor control button clearly requires less dexterity than rotating a focusing drum. Thus for applications where it would be preferable to emphasize ease of operation it clearly would have been obvious to one of ordinary skill in the art to use a motorized design in Dennison, Jr. et al. device in order to increase the operability of the focusing operation.

The drive member that drives the lens in Dennison, Jr. et al. is pin 60, which is shown in Figure 2 as being mounted within the cavity so that it extends to make contact with lens carrier 40. This drive member causes lens carrier 40 to move longitudinally between its proximal-most and its distal-most positions in the bore in response to the rotation of rotation sleeve 100 which causes drum 80 to rotate (Column 8, Lines 10-29). In the motorized rack/gear design of Ohsawa the drive member that makes contact with the lens carrier is gear 48, as seen in Figure 1. Since the drive member that makes contact with the lens carrier in Ohsawa is a gear that connects to rack gear teeth formed on the lens carrier, applying such a design to Dennison, Jr. et al. clearly would involve locating the gear in the cavity since that is where the drive member that contacts the lens carrier is located in Dennison, Jr. et al.

The Applicant argues that there is no motivation in any of the references to combine Yonezawa et al. with Dennison, Jr. et al. and Ohsawa. The Examiner disagrees. Yonezawa et al. specifically state that the spring produces stable movement of a lens carrier as it is moved longitudinally along an optical axis (Column 2, Lines 47-54).

The Applicant further argues that since Yonezawa et al. lacks a gear means for moving the lens carrier the spring merely serves as a restoring force that is not needed in a device wherein a gear system is employed and thus does not serve to minimize backlash between the meshing gear teeth as does the spring in the present invention. In response it is noted that the claim language does not recite any limitation regarding gear backlash. Furthermore the effect of the spring in Yonezawa et al. is that of causing the lens carrier to be "free from any play" so that it can move smoothly (Column 2, Lines 57-58). Clearly therefore the spring of Yonezawa et al., when used in the device of Dennison, Jr. et al. and Ohsawa, would serve to minimize "any play", including that might be created by gear backlash.

The Applicant argues with regard to Claim 7 that the illustration of motor M in relation to the gear rack in Figure 10 of Yata et al. is purely schematic and that there is nothing in the application to indicate that it extends at any angle other than 90 degrees to the plane of the gear rack.

In response, there is nothing in the Yata et al. reference to indicate that the motor's output shaft is not disposed at an acute to the longitudinal axis of the lens carrier as recited in Claim 7,

and Figure 10 clearly shows the output shaft of the motor to be disposed at an acute angle thereto. Furthermore the configuration recited in Claim 7 is illustrated in Figure 8 and described on page 17 of the Applicant's specification where the Applicant assigns no special difference between that configuration and the one illustrated in Figure 9 where the output shaft is disposed in parallel to the longitudinal axis of the lens carrier, as is the case in Ohsawa. Therefore it is clear that the configuration recited in Claim 7 is inconsequentially different from the arrangement disclosed in Ohsawa.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 11-19 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 11 recites that the electromechanical means comprises a rack of gear teeth, a motor and a gear means and is mounted to the housing. However the specification discloses only the motor as being mounted to the housing, with the gear means being mounted to the motor's output shaft and the rack of gear teeth being part of the lens carrier.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 33 and 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 33 recites the limitation "said free end" in lines 21-22. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1, 5, 6, 11, 15-20, 22-24 and 30-32 are rejected under 35 USC 103(a) as being unpatentable over Dennison, Jr. et al. (U.S. Patent No. 5,212,595) in view of Ohsawa (U.S. Patent No. 4,905,668).

Regarding Claim 1, Dennison, Jr. et al. disclose a focusing coupler device comprising the recited housing (23, 20), first attaching means (12), second attaching means (15), cavity and opening (28); a tubular lens carrier (40) with open distal and proximal ends and having an outer

surface, containing the recited focusing lens (44) and being slidably disposed in the bore (Figure 2); whereby an image captured by the image capturing device and relayed by the focusing lens may be focused on an image receiving device by movement of the lens carrier.

Dennison, Jr et al. suggest the use of an electro-mechanical drive assembly (Column 8, Lines 29-31) but do not disclose that the device is motorized and having the recited gear means and connectivity to the drive assembly and also do not disclose that the outer surface of the lens carrier is characterized by a longitudinally aligned series of rack gear teeth. However it is well known in the art to accomplish longitudinal movement of a lens carrier such as that in Dennison, Jr. et al. using a reversible motor and a gear means in conjunction with a longitudinally aligned series of rack gear teeth formed on a lens carrier, the motor having an output shaft and the gear means connecting the output shaft to the series of rack gear teeth for selectively moving a lens carrier in response to the rotation of the output shaft, as disclosed in Figure 1 of Ohsawa. Such an arrangement would clearly have been recognized as an obvious variation of the powered arrangement suggested in Dennison, Jr. et al. since the arrangement of Ohsawa is so well known and the same longitudinal lens movement that would be accomplished by the powered rotation of a drum in Dennison, Jr. et al. is also accomplished by the rack/gear arrangement in Ohsawa. Furthermore, although Dennison, Jr. et al. (Column 8, Lines 31-33) express a preference for manual manipulation, for reasons not stated, it is clear that a powered arrangement would be easier to operate than that of a manually rotated drum since pushing a motor control button requires less dexterity than rotating a focusing drum. Thus for applications where it would be

preferable to emphasize ease of operation it clearly would have been obvious to one of ordinary skill in the art to use a motorized design for the Dennison, Jr. et al. device in order to increase the operability of the focusing operation. Furthermore, since the drive member in Ohsawa is a gear, applying the Ohsawa design to Dennison, Jr. et al. clearly would involve locating the gear in the cavity since that is where the drive member (60) of Dennison, Jr. et al. is located.

Regarding the recited mounting of the electro-mechanical drive assembly to the housing, although a mounting location of the motor in Ohsawa is not specifically mentioned, according to the arrangement shown in Figure 1 the motor (46) is clearly mounted in close proximity to the gear (48). As such, a part of the housing in Dennison, Jr. et al., namely lens barrel 20, clearly would be recognized by one skilled in the art as a preferable part of the Dennison, Jr. et al. device to which to mount the electro-mechanical drive assembly since it is the part of greatest mass in close proximity to the cavity in which the gear would be located.

Regarding Claim 5, Dennison, Jr. et al. and Ohsawa disclose that the gear means is a worm gear attached to the output shaft such that it meshes with the rack gear teeth (Ohsawa; See Figure 1). In the combination of Dennison, Jr et al. and Ohsawa, for the meshing of the gear with the rack gear teeth it would have been obvious to arrange the worm gear so that a portion thereof would extend through the opening since, as discussed with regard to Claim 1, the drive member (60) in Dennison, Jr. et al. is so configured.

Regarding Claim 6, the lens carrier in Dennison, Jr. et al. has a longitudinal axis (See Figure 2). In Ohsawa the output shaft extends parallel to the longitudinal axis of the lens carrier. Therefore in the combination of Dennison, Jr. et al. and Ohsawa it would have been obvious to arrange the drive shaft so as to extend parallel to the longitudinal axis of the lens carrier since this is the arrangement taught in Ohsawa.

Regarding Claim 11, see Examiner's comments regarding Claim 1 where the recited lens transport assembly is the tubular lens carrier of Claim 1 and note that in Dennison, Jr. et al the lens transport assembly in a close-fitting sliding relation with the bore (See Figure 2). Note also that the gear means of Dennison, Jr. et al. and Ohsawa clearly would be within the housing since the cavity is within the housing and the gear means is within the cavity as addressed in Claim 1. In addition note that it clearly would have been obvious to one of ordinary skill in the art at the time of the invention to mount the motor to the exterior of the housing since to mount the motor inside the housing would interfere with the movement of the lens carrier.

Regarding Claim 15, Dennison, Jr. et al. and Ohsawa disclose an optical image-capturing device attached to the first means (Dennison, Jr. et al.; Column 8, Lines 67 - Column 9, Line 3).

Regarding Claim 16, Dennison, Jr. et al. and Ohsawa disclose that the image capturing device is an endoscope (Dennison, Jr. et al.; Column 4, Lines 60-61).

Regarding Claims 17 and 18, Dennison, Jr. et al. and Ohsawa disclose an image receiving apparatus which is a video camera attached to the second means (Dennison, Jr. et al.; Column 4, Lines 60-61).

Regarding Claim 19, Dennison, Jr. et al. and Ohsawa disclose that the housing includes first and transparent windows closing off the bore at the distal and proximal ends thereof (Dennison, Jr. et al.; Figure 2, Items 32 and 92).

As to Claim 20, see Examiner's comments regarding Claims 1 and 11 and note that the Dennison, Jr. et al. device is also an image viewing and focusing system comprising an image capturing device (12) and a video camera (Column 4, Lines 60-61), and that the straight bore in Dennison, Jr. et al. extends between the proximal and distal ends of the housing (See Figure 2), where the recited lens transport assembly is the tubular lens carrier of Claim 1. Note also that in Dennison, Jr. et al the lens transport assembly in a close-fitting sliding relation with the bore (See Figure 2). In addition it clearly would have been obvious to one of ordinary skill in the art at the time of the invention to dispose the gear means within the housing since the rack gear teeth with which it meshes are disposed within the housing.

Regarding Claim 22, the motor of Dennison, Jr et al. and Ohsawa is clearly contained in a motor support housing as seen in Figure 1 of Ohsawa where motor (46) is shown as a self-

contained unit and thus is clearly enclosed in a housing in which it is contained and by which it is clearly mounted to some supporting structure, it being obvious in this case to mount the motor support housing to the Dennison, Jr. et al. housing in keeping with the Examiner's comments regarding Claim 1.

Regarding Claims 23 and 24, Official Notice is given that it is well known in the art to employ a foot switch for controlling lens movement in an endoscope in order to free the hands of the user. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to provide in Dennison, Jr. et al. and Ohsawa a foot switch by which to control movement of the motor in order to free the hands of the user when focusing the device.

As to Claim 30, see Examiner's comments regarding Claim 1 and note that the recited chamber is the bore of Claim 1 and the drive device is the motor of Claim 1.

As to Claim 31, see Examiner's comments regarding Claim 19.

Regarding Claim 32, Dennison, Jr. et al. disclose that the housing has an external opening communicating with the cavity (See Figures 2 and 3 and note that cavity 28 opens out from the housing). As discussed with regard to Claim 22, the motor clearly is mounted in a support housing and it would have been obvious to mount the motor support housing to the Dennison, Jr.

et al. housing. Furthermore since Ohsawa shows the motor positioned close to the gear and the gear of Dennison, Jr. et al. and Ohsawa is positioned in the Dennison, Jr. et al. cavity (see Examiner's comments regarding Claim 1) it would have been obvious to one of ordinary skill in the art at the time of the invention to attach the motor support housing to the housing at the external opening since in the combination of Dennison, Jr. et al. and Ohsawa the gear would be located therein

8. Claims 2, 3, 12-14 and 26-27 are rejected under 35 USC 103(a) as being unpatentable over Dennison, Jr. et al. in view of Ohsawa and further in view of Yonezawa et al. (U.S. Patent No. 5,008,534).

Regarding Claim 2, Dennison, Jr. et al. and Ohsawa disclose all of the limitations except that of a biasing means. However Yonezawa et al. disclose such an arrangement (See Figure 2) which clearly would increase the focusing accuracy of Dennison, Jr. et al. and Ohsawa by increasing the stability of the movement of the lens carrier, as taught in Yonezawa et al. (Column 2, Lines 47-50). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to employ the recited biasing means in Dennison, Jr. et al. and Ohsawa in order to increase the stability of the movement of the lens carrier, as taught in Yonezawa et al., thereby increasing the accuracy of the focusing operation.

Regarding Claim 3, Yonezawa et al. disclose that the biasing means comprises a coil

spring disposed in a bore between a stop adjacent one of the ends thereof and the lens carrier (See Figure 2).

Regarding Claim 12, Dennison, Jr. et al. and Ohsawa disclose all of the limitations except that of a spring. However the provision of such in Dennison, Jr. et al. and Ohsawa would have been obvious as discussed with regard to Claim 2.

As to Claim 13, see Examiner's comments regarding Claim 12 and note that the spring in Yonezawa et al. is disposed between what would be the distal end of Dennison, Jr. et al. and the adjacent end of the lens transport assembly (See Yonezawa et al.; Figure 2).

Regarding Claim 14, Dennison, Jr. et al. disclose a second internal stop adjacent the proximal end of the bore that clearly limits movement of the lens transport assembly toward that end (Figure 2, Item 92).

As to Claim 26, see Examiner's comments regarding Claims 1, 11, 13, 14 and 19.

As to Claim 27, see Examiner's comments regarding Claims 16 and 18 and note that in Dennison, Jr. et al. the endoscope and the electronic camera are releasably attached (Column 4, Lines 58-64; Column 8, Line 67 - Column 9, Line 3) and are respectively in line with the bore

(See Figures 1 and 2).

9. Claim 4 is rejected under 35 USC 103(a) as being unpatentable over Dennison, Jr. et al. in view of Ohsawa and further in view of Lucey et al. (U.S. Patent No. 5,808,813).

Dennison, Jr. et al. disclose that the structural arrangement of the lens carrier may be configured in any of a variety of ways (Column 5, Lines 14-16) but do not specifically disclose windows closing off the open distal and proximal ends of the lens carrier. However such an arrangement is clearly encompassed within the variety of ways of Dennison, Jr. et al. and would have been obvious to one of ordinary skill in the art, as suggested by the configuration of the lens carrier in Lucey et al. (See Figure 6A; Item 44).

10. Claim 7 is rejected under 35 USC 103(a) as being unpatentable over Dennison, Jr. et al. in view of Ohsawa and further in view of Yata et al. (U.S. Patent No. 3,967,056).

Dennison, Jr. et al. and Ohsawa disclose all of the limitations except that of drive shaft being disposed at an acute angle to the first longitudinal axis. However such a configuration is old and well known in the art, as taught in Figure 10 of Yata et al. and therefore would have been to one skilled in the art an obvious variation of Dennison, Jr. et al and Ohsawa.

11. Claim 28 is rejected under 35 USC 103(a) as being unpatentable over Dennison, Jr. et al. in view of Ohsawa and Yonezawa et al. and further in view of Enomoto et al. (U. S. Patent No.

4,445,757)

Dennison, Jr. et al., Ohsawa and Yonezawa et al. disclose a worm gear attached to the output shaft (Ohsawa; Figure 1) but do not disclose that it is engaged with a gear. However Enomoto et al. (See Figure 1) disclose a lens positioning arrangement wherein a gear (15) is in meshing engagement with the teeth of a worm gear (14) and rack gear teeth (18). Such an arrangement would clearly have been recognized by one skilled in the art to be an obvious variation of Dennison, Jr. et al. and Ohsawa since it accomplishes the same lens movement.

12. Claim 29 is rejected under 35 USC 103(a) as being unpatentable over Dennison, Jr. et al. in view of Ohsawa and further in view of Enomoto et al. and Kawai (U.S. Patent No. 4,609,260).

Dennison, Jr. et al. and Ohsawa disclose a worm gear attached to the output shaft and rotatable therewith (Ohsawa; Figure 1) but do not disclose that the worm gear is in driving arrangement with another gear which is a pinion gear. However Enomoto et al. (See Figure 1) disclose a positioning arrangement wherein a gear means for producing movement via rack gear teeth (18) includes a worm gear (14) attached to the output shaft of motor (13) and rotatable therewith, the worm gear being in driving engagement with gear (15). Such an arrangement would clearly have been recognized by one skilled in the art to be an obvious variation of Dennison, Jr. et al. and Ohsawa since it accomplishes the same lens movement. Although Enomoto et al. disclose that gear (15) is a worm gear and not a pinion gear, it is well known in the art to use a pinion gear to move a lens carrier via rack gear teeth, as disclosed in Kawai,

where pinion gear (24) is so used. It is clear that the pinion gear of Kawai which meshes with the rack gear teeth would be recognized by one skilled in the art as an obvious variation of the worm gear of Enomoto et al. that meshes with the rack gear teeth since both gears produce the same longitudinal movement of the lens via rack gear teeth. Therefore it would have been obvious to one of ordinary skill in the art at the time of invention to use a pinion gear for the gear that meshes with the rack gear teeth of Dennison, Jr. et al., Ohsawa and Enomoto et al. since one is clearly an obvious variation of the other.

13. Claims 33 and 34 would be allowable if rewritten or amended to overcome the rejection under 35 U.S.C. 112 set forth in this Office action.

The reason for allowance is as follows:

the prior art does not teach or fairly suggest a motorized focusing coupler device comprising a housing having a distal end and a proximal end and comprising a substantially straight bore having a distal end and a proximal end, a first attaching means at the distal end of the housing for mechanically attaching the housing to an image capturing device, a second attaching means at the proximal end of the housing for mechanically attaching the housing to an image receiving apparatus, a tubular lens carrier slidably disposed in the bore for reciprocal movement along the bore between a proximal-most position and a distal-most position, the lens carrier supporting at least one coaxially mounted focusing lens and a longitudinally-extending series of rack gear teeth; a reversible electro-mechanical drive assembly mounted to the housing, the drive

assembly having an output shaft; a gear means connecting the output shaft to the series of rack gear teeth for selectively moving the lens carrier between its proximal-most and its distal-most positions in the bore in response to rotation of the output shaft, the gear means comprising a worm gear attached to the free end of the output shaft, and a helical pinion gear rotatably disposed in the cavity, with the teeth of the helical pinion gear in meshing engagement with the teeth of the worm gear and the rack gear teeth; whereby an image captured by the image capturing device and relayed by the at least one focusing lens may be focused on an image receiving device by movement of the lens carrier, wherein

> the bore is a first bore and the coupler device has a second bore in the housing and a cavity connecting the second bore with the bore, with the output shaft of the drive assembly extending into the second bore.

14. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

U.S. Patent No. 5,911,088 - Figure 1 shows a motor driven worm gear driving a helical gear (See also Column 5, Lines 64-66).

15. Applicants' amendment necessitated the new ground of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

16. Any response to this final action should be mailed to:

Box AF
Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 308-6306 (for informal or draft communications, please label "PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

17. Any inquiry regarding this communication or earlier communications from the examiner should be directed to Andy Christensen whose telephone number is (703) 308-9644.

If attempts to reach the examiner by telephone are unsuccessful the examiner's supervisor, Wendy Garber, can be reached on (703) 305-4929.

Any inquiry of a general nature or relating to the status of this application or proceeding should be

directed to the Group receptionist whose telephone number is (703) 305-4700.

ac
January 16, 2001

ANDREW CHRISTENSEN
PATENT EXAMINER